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PUB-NO: WO009924633A1
DOCUMENT-IDENTIFIER: WO 9924633 A1
TITLE: STAINLESS STEEL COATED WITH INTERMETALLIC COMPOUND AND PROCESS FOR PRODUCING
THE SAME

PUBN-DATE: May 20, 1999

INVENTOR-INFORMATION:

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ASSIGNEE-INFORMATION:

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INT-CL (IPC): C23 C 10/28
EUR-CL (EPC): C23C026/00; C23C028/02

ABSTRACT:

CHG DATE=19990702 STATUS=O>A stainless steel coated with an intermetallic compound
and excellent in rigidity, toughness, wearing resistance, and corrosion resistance,

which comprises a base made of a martensitic stainless steel having a Vickers hardness of 400 or higher and a hard coating whose lower side is tightly adherent to the base while the upper side is exposed. The hard coating has the outermost layer made of any one of a Ti-Ni intermetallic compound, a Ti-Fe intermetallic compound, and a mixture of a Ti-Ni intermetallic compound with a Ti-Cu intermetallic compound. The coated stainless steel is produced by cladding a martensitic stainless steel with titanium or a titanium alloy either directly or through an interlayer made of nickel, iron, or a Ni-Cu alloy to prepare a laminate, holding this laminate at 900 to 1,150 DEG C for 30 seconds to 5 minutes, and then cooling it at a rate of 1 DEG C/sec or higher.